

REMARKS

Claims 1 to 11 are pending in the present application. Claims 1, 5, and 9 have been amended to assist in overcoming the examiner's rejections. Claims 6, 7, 8 and 11 are herewith canceled and withdrawn.

The examiner rejected claims 1-5 and 9-11 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Number 5,633,527 to Lear. Applicants respectfully traverse this rejection.

A reference must teach or suggest all elements of a claim to anticipate the claim. Applicants disclose and claim a method for, *inter alia*, a semiconductor laser chip having a semiconductor element, a beam shaper integrated into the semiconductor laser chip and serving to shape a laser beam emitted by the semiconductor laser element, and a trench introduced between the semiconductor laser element and the beam shaper, the semiconductor laser element being configured as an FP semiconductor laser element, the beam shaper being arranged in a manner integrated in the semiconductor laser element in the exit direction of a laser beam emitted by the semiconductor laser element, such that the emitted laser beam is guided through the beam shaper, the beam shaper having a predetermined concentration profile of oxidized aluminum.

Lear fails to teach or suggest all of the claimed features.

Lear discloses, *inter alia*, in Figure 1 and in the corresponding description, a unitary lens semiconductor device 10 comprising a substrate 12 and at least one unitary lens 14 formed above the substrate 12 (col. 5, lines 6-8). The unitary lens semiconductor device 10 may be a light-activated device such as a light-emitting diode or a vertical-cavity surface-emitting laser (col. 6, lines 28-31). Nowhere does Lear disclose a FP-laser useable as a unitary lens semiconductor device 10. Further, Lear does disclose that the at least one unitary lens 14 receives one or more light beams 18 and passes the light beams along an optical axis 20 substantially normal to the substrate 12 (col. 5, lines 16-22, and Fig. 1). Consequently, the emission of the one or more light beams 18 is performed in or below the substrate 12.

Lear does disclose access regions 32 in the form of rectangular trenches. (Col. 8, lines 20 and 21, and Fig. 1). These access regions 32 are provided for the generation of the concentration profile of the at least one unitary lens 14. However, these access regions 32 are

positioned above both the at least one unitary lens 14 and the substrate 12. Therefore, Lear does not, as the present invention discloses and claims, a trench between a semiconductor laser element and a beam shaper. Thus, Lear fails to teach or suggest all of the claimed elements of the existing invention.

Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of claims 1-5 and 9-11 under 35 U.S.C. 102(b) as anticipated.

The examiner rejected claim 6 under 35 U.S.C. 103(a) as obvious over U.S. Patent Number 5,633,527 to Lear in view of U.S. Patent Number 5,802,086 to Hargis et al.. Applicants respectfully traverse this rejection.

A reference must teach or suggest all elements of a claim to anticipate the claim. As discussed above, Lear fails to disclose, as the present invention discloses and claims, a trench between a semiconductor laser element and a beam shaper.

Further, the problem addressed by the present invention is to provide and generate a semiconductor laser chip having a semiconductor laser element and a beam shaper wherein the semiconductor laser element is to be formed as a Fabry-Perot laser. This problem does not even occur in Lear since in Lear a light-emitting diode or vertical-cavity surface-emitting laser is used as the light emitting element. Therefore, a person skilled in the art dealing with the problem addressed by the present invention would not use Lear to assist in solving the problem. Even if a person skilled in the art would utilize Lear, there is no teaching or suggestion by Lear that would lead to solution disclosed by the present invention.

Hargis discloses in Fig. 11 and the corresponding description in Column 14, a single cavity solid state laser with intracavity optical frequency mixing comprising a lasing material crystal block 1010 having the form of an etalon with two opposite, flat, parallel polished faces, and an optical frequency mixing crystal block 1020 (Col. 14, lines 13, 15-16; Col. 13, lines 37 and 39; and Fig. 11). The lasing material crystal block 1010 and the optical frequency mixing crystal block 1020 are surrounded by two exterior end faces 1030, 1032 acting as cavity mirrors (Col. 14, lines 20-21), and are separated by an air gap 1110 bordering an interior surface 1034 of the lasing material crystal block 1010 and an interior surface 1036 of the optical frequency mixing crystal block 1020, the interior surfaces 1034, 1036 being polished flat and parallel and being antireflection-coated. (Col. 14, lines 1-6, 17).

Therefore, the Hargis lasing material crystal block 1010 cannot be understood as an FP-laser, nor can the optical frequency mixing crystal block 1020 ever been understood as a beam shaper. The two exterior end faces 1030, 1032 do form an FP-laser. However, the above-mentioned problem addressed by the present invention does not even occur in Hargis since Hargis fails to disclose a semiconductor laser element and a beam shaper being integrated into a semiconductor laser chip and being separated by a trench. Therefore, a person skilled in the art and faced with the problem solved by the present invention would not even use the disclosure and teaching of Hargis. Even if a person skilled in the art would use Hargis, no teaching or suggestion is given by Hargis leading to the solution of the present problem as disclosed and claimed by the present invention.

Thus, even the combination of Lear and Hargis fail to teach or suggest, let alone solve, the problem addressed by the present invention.

Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of claim 6 under 35 U.S.C. 103(a) as anticipated.

The examiner rejected claims 7 and 8 under 35 U.S.C. 103(a) as obvious over U.S. Patent Number 5,633,527 to Lear in view of U.S. Patent Number 5,771,250 to Shigehara et al.. Applicants respectfully traverse this rejection.

Shigehara discloses in Fig. 34 and in the corresponding description (Cols 45-46), an independent FP-laser 388 emitting laser light that is focused by a lens 375 on the entrance surface of an optical fiber 384. However, Shigehara fails to disclose, teach or suggest how both the FP-laser 388 and the lens 375 can be integrated into a single semiconductor chip.

Shigegara does not even teach or suggest the formation of a trench necessary between a semiconductor laser element and a beam shaper, both being integrated into a single semiconductor laser. Thus, the problem of the present invention does not even occur in Shigehara. As a result, a person skilled in the art faced with the problem solved by the present invention, would not even use the disclosure and teaching of Shigahara.

Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of claims 7 and 8 under 35 U.S.C. 103(a) as anticipated.

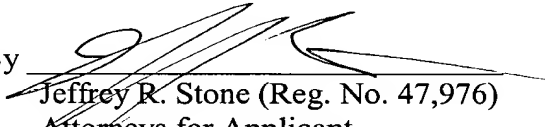
In view of Applicant's amendments and remarks, the claims are believed to be in condition for allowance. Reconsideration, withdrawal of the rejections, and passage of the case to issue is respectfully requested. If any fees not accounted for above are due in connection with the filing of this paper, please charge the fees to our Deposit Account No. 02-3732.

Respectfully submitted,

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